

REMARKS

Claims 1-3, 5-16, and 18-20 are pending in the application and have been examined on the merits. Claims have been amended to more clearly point out the presently claimed invention. In particular, claims 6, 8, 15, 16, 18, and 19 have been amended to distinguish the inventive gene and microorganism from product of nature. Support for “having phytase activity” and “amino acid residues 23-433 of SEQ ID NO: 7” in amended claim 1 can be found at pages 7-8 in the specification and the Sequence Listing. Support for the amendment to claim 2 can be found at pages 4-5 in the specification and also in claim 1 as originally presented. Support for “isolated” in amended claims 6, 8, 15, 16, 18, and 19 can be found throughout the specification. No new matter has been inserted into the application.

Election/Restrictions and Priority

Applicants acknowledge rejoinder of Groups 1-3.

In response to the Examiner’s indication that Kim et al. (Biotechnol. Letters., 2003, Vol. 25:1231-1234) is considered to be prior art because an English language translation of the Korean application 10-2003-0018573 filed on March 25, 2003 has not been provided, enclosed herewith is a certified copy of the English translation of KR 10-2003-0018573.

Claim Objections

Claim 7 has been objected to for reciting the phrase “base sequence.” The Examiner suggests changing the phrase to “nucleotide sequence.” Claim 7 has been amended as suggested by the Examiner.

Claims 8 and 17 have been objected to as being a substantial duplicate thereof. Claim 17 has been canceled.

It is believed that these objections have been overcome.

Rejection Under 35 USC § 101

Claims 6-8, 10-11, and 15-19 have been rejected under 35 U.S.C. 101 for allegedly reading on non-statutory subject matter. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested.

The Examiner suggests amending the claims to recite “An isolated gene” or “An isolated microorganism” in order to overcome this rejection. Claims 6, 8, 15, 16, 18, and 19 have been amended as suggested by the Examiner. Accordingly, it is believed that this rejection has been overcome.

Rejection Under 35 USC § 112, Second Paragraph

Claims 1-3 and 5-20 have been rejected under 35 U.S.C. 112, second paragraph as being indefinite. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested.

The Examiner states that because claim 1 does not clearly state the activity of the claimed polypeptide the activity of the polypeptide should be incorporated into claim 1. Claim 1 has been amended to recite “An isolated protein having phytase activity” as suggested by the Examiner.

The Examiner states that claim 1 recites the phrase “pancreatin.pancreatin” and requires clarification. Claim 1 has been amended and the mentioned phrase has been deleted.

The Examiner states that the phrase “as set forth in SEQ ID NO:7 or SEQ ID NO:6” recited in claims 2, 3, 5, and 7 is not clear as to whether the isolated protein or nucleic acid indeed actually has the sequence of SEQ ID NO:7 or SEQ ID NO:6 or whether SEQ ID NO:7 or SEQ ID NO:6 is a representative sequence of the isolated protein or polynucleotide. The Examiner suggests making a direct reference to the SEQ ID NOS such as “a polypeptide sequence of SEQ ID NO:7 or a polynucleotide sequence of SEQ ID NO:6.” Claims 3 and 7, reciting SEQ ID NO:7 and SEQ ID NO:6, respectively, have been amended as suggested by the Examiner.

Accordingly, it is believed that this rejection has been overcome.

Rejection Under 35 USC § 112, First Paragraph

Claim 6 has been rejected under 35 U.S.C. §112, first paragraph as containing subject matter which was not disclosed in the specification in such a way as to reasonably convey to one of skilled in the relevant art that the invention, at the time the application was filed, had possession of the claimed invention. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested.

The Examiner states that claim 6 is directed to a genus of nucleic acids encoding a polypeptide having phytase activity and comprises amino acid sequence of SEQ ID NO:2, but the specification does not contain any disclosure of the structure of all nucleic acid sequences included in the claimed genera, i.e., polypeptide having phytase activity. The Examiner also states that the specification discloses only a single species of claimed genus, i.e., a polypeptide of SEQ ID NO:6 encoding SEQ ID NO:7 and having phytase activity.

Claim 1 has been amended to address the Examiner's concerns and to more clearly point out the presently claimed invention as "An isolated protein having phytase activity comprising the amino acid residues 23-433 of SEQ ID NO: 7." Therefore, it is believed that "An isolated gene encoding the protein of claim 1" according to the currently amended claim 6 is disclosed in the specification as the polypeptide having phytase activity according to claim 1 is now directed to the amino acid residues 23-433 of SEQ ID NO: 7.

Applicants respectfully request removal of this rejection.

Rejection Under 35 USC § 112, First Paragraph

Claims 1-3, 5-10 and 12-20 have been rejected under 35 U.S.C. §112, first paragraph for not reasonably providing enablement. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested.

The Examiner states that the specification does not reasonably provide enablement for any polypeptide comprising an amino acid sequence having at least 70-99% sequence homology to SEQ ID NO:7 and having phytase activity, the polypeptide further comprising the sequence of SEQ ID NO:2 at its N-terminus and encoded by any polynucleotide having at least 70-99% sequence homology to SEQ ID NO:6, or a microorganism belonging to *Citrobacter* species producing the polypeptides, method of making the polypeptides and a feed additive comprising the polypeptides.

Claims 2, 3, and 7 have been amended to address the Examiner's concerns and to delete the recitation of "having over 70% sequence homology with the same," and therefore, all of the currently pending claims are directed to an isolated polypeptide comprising an amino acid sequence of SEQ ID NO:7 having phytase activity and encoded by a polynucleotide comprising

the sequence of SEQ ID NO:6, or a microorganism belonging to *Citrobacter* species producing the polypeptide, method of making the polypeptide and a feed additive comprising the polypeptide, which enablement is supported by the specification as indicated by the Examiner.

Applicants respectfully request removal of this rejection.

Rejection Under 35 USC § 112, First Paragraph

Claim 11 has been rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested.

The Examiner states that *Citrobacter braakii* YH-15 strain, Deposit Accession number: KCCM 10427 is required to practice the claimed invention. However, the Examiner also states that there is no indication in the specification as to the public availability of the deposited organism.

The Examiner is directed to the Declaration of Depositor by Young Ok Kim, one of the inventors in the present application, in which the Applicant has declared that the *Citrobacter braakii* YH-15 strain was deposited on September 26, 2002 with the Korean Culture Center of Microorganisms (KCCM) in compliance with the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purpose of Patent Procedure. It is believed that the Declaration satisfies the deposit requirement in connection with the *Citrobacter braakii* YH-15 strain, Deposit Accession number: KCCM 10427.

Applicants respectfully request removal of this rejection.

Rejection Under 35 USC § 102(a) Over Kim (Biotechnol. Letters., 2003, Vol. 25:1231-1234)

Claims 1-3, 5, 8-14 and 17-20 have been rejected under 35 U.S.C. 102(a) as being anticipated by Kim. Applicant traverses this rejection. Reconsideration and withdrawal thereof are respectfully requested.

The Examiner states that the filing date of 371 PCT/KR04/00680 filed on March 25, 2004 is the priority date granted for the instant application because the English translation of the foreign priority documents was not provided with the filing of the PCT application. To address the Examiner's concerns, submitted herewith is a certified copy the English language translation of the foreign priority document, Korean application 10-2003-0018573 filed on March 25, 2003. Therefore, the effective priority date of the present application has been perfected to March 25, 2003, which predates the Kim reference which was accepted for publication on May 20, 2003. Accordingly, this rejection has been overcome.

Rejection Under 35 USC § 103(a) Over Kim

Claim 6 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Kim. Applicant traverses this rejection. Reconsideration and withdrawal thereof are respectfully requested.

As discussed above, the priority date of the present application predates the publication date of the Kim reference. Accordingly, this rejection has been overcome.

Conclusion

It is believed that the application is now in condition for allowance. Applicants request the Examiner to issue a notice of Allowance in due course. The Examiner is encouraged to contact the undersigned to further the prosecution of the present invention.

The Commissioner is authorized to charge JHK Law's Deposit Account No. **502486** for any fees required under 37 CFR § 1.16 and 1.17 and to credit any overpayment to said Deposit Account No. **502486**.

Respectfully submitted,

JHK Law

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Attachments: (1) Declaration of Depositor by Young Ok Kim;
(2) Verified Statement on Translation by Yunho Han; and
(3) Certified copy of the English translation of Korean application 10-2003-0018573 filed on March 25, 2003.